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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,411	06/20/2007	Herbert Sieghafner	27392/30000	3265
4743                      7590                      07/16/2008 MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606				
EXAMINER				
DINH, TRINH VO				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/577,411

**Applicant(s)**

STEGHAFNER, HERBERT

**Examiner**

Trinh Vo Dinh

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is a response to amendment filed 03/17/2008. The rejections of claims 3-4, 6-7 and 14 under 35 USC & 112 second paragraph have been withdrawn in view of the amendment. However, amending claim 1 has raised a change in scope of the claim which requires further consideration as presented below. This is made Final.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 and 6-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear what "printed-conductor portions...are a shorter length with increasing distance from the base point".

Claims 2-4 and 6-15 are rejected because of their dependencies.

Clarification/Correction is required.

#### ***Claim Rejections - 35 USC § 102***

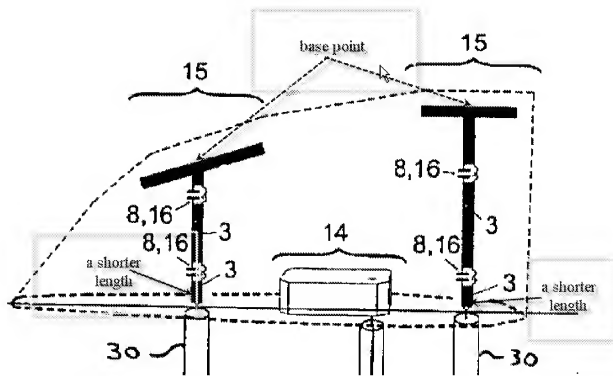
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4 and 6, as the best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Lindenmeier (US 6,917,340 of record).

Respecting claim 1, as the best understood, Lindenmeier discloses an antenna system (in Figs. 5-6) of broad bandwidth comprising a plurality of active, vertical individual antennas (14, 15 in Figs. 5-6) with an electrically-active antenna height adapted to the respective received frequency range (col. 6 lines 11-26) wherein the mutual electromagnetic coupling between the individual antennas which are positioned at a small spacing distance, is minimized (col. 4 line 44 to col. 5 line 4) wherein conductor portions (3) between intermittent impedance elements (8, 16, 30) of each individual antenna (15) are of a shorter length (as shown in the below drawing) with increasing distance from a base point (as shown in the below Drawing).



Respecting claim 2, Lindenmeier inherently discloses the claimed subject matters since the claimed parameters that are optimized are taken into consideration in any antenna design, especially since Lindenmeier defined minimization of the coupling as an aim.

Respecting claims 3-4 and 6, Lindenmeier discloses, in Fig. 6, the respective electrically-active antenna height is optimized by an optimized arrangement of several impedance elements in the respective individual antennas and their optimized interconnection, and the optimized arrangement of the impedance elements relative to one another takes place both within one individual antenna and also between the individual antennas. Further, Lindenmeier discloses the interconnection of the impedance elements provides impedance in the case of low received frequencies, and provides high impedance in the case of high received frequencies (col. 5 lines 30-45).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 8, 10, 12-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ericsson Inc. (WO 01/71846 of record) in view of Lindenmeier.

Respecting claim 1, Ericsson discloses an antenna system (in Figs. 2, 4) of broad bandwidth comprising a plurality of active, vertical individual antennas (214, 224) with an electrically-active antenna height adapted to the respective received frequency range wherein the

mutual electromagnetic coupling between the individual antennas which are positioned at a small spacing distance, is minimized (page 1, lines 9-21). However, Ericsson does not suggest conductor portions between intermittent impedance elements of each individual antenna are of a shorter length with increasing distance from a base point. Lindenmeier discloses conductor portions (3) between intermittent impedance elements (8, 16, 30) of each individual antenna (15) are of a shorter length (as shown in the below drawing) with increasing distance from a base point (as shown in the below Drawing). It would have been obvious to one having ordinary skill in the art to provide Ericsson's antennas with conductor portions having a shorter length as taught by Lindenmeier in order to improve performance of the antenna.

Respecting claim 2, Ericsson inherently discloses the claimed subject matters since the claimed parameters that are optimized are taken into consideration in any antenna design.

Respecting claims 8 and 10, Ericsson discloses, in page 11, lines 26-31, the input impedance of the active base-point electronics provides a high-resistance input impedance in those of the individual antennas which are determined for the reception of low-frequency transmission signals, or the input impedance of the active base-point electronics in those of the individual antennae determined for the reception of relatively high-frequency transmission signals, is designed to be of low- resistance for low-frequency transmission signals and to be at the base-point impedance of the passive antenna region of the respective individual antenna for relatively high-frequency transmission signals.

Respecting claims 12-13 and 15, Ericsson discloses the input impedance of the active base-point electronics is additionally mismatched in a targeted manner outside the useful

frequency range to the base-point impedance of the passive antenna region of the respective individual antenna. Further, Ericsson discloses the received frequency ranges of the individual antennae adjoin one another and form a complete received, frequency range (page 10 lines 15-16).

7. Claims 7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindenmeier and/or Ericsson in view of Abramo (US 5,600,335 of record).

Lindenmeier discloses every features of the claimed invention except RL circuit or RC circuit. Abramo discloses interconnection of the impedance elements comprising a parallel circuit including an inductance and a resistor, or a capacitor and a resistor (col. 1 lines 16-19). It would have been obvious to one having ordinary skill in the art to incorporate the circuit electrical circuit as taught by Abramo into the antenna structure of Lindenmeier or Ericsson since such modification is well known to maintain an acceptable VSWR with increase frequency bandwidth.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ericsson as modified by Lindenmeier in view of Ohe et al (US 4,788,549 of record).

Ericsson as modified by Lindenmeier discloses substantially claimed subjected matters as discussed in claims 1, 2 and 13. However, Ericsson fairly suggests a phase matching and a crossover network. Ohe discloses phase matching networks (88A, 88B) for phase matching of the received transmission signals and a crossover network (90A, 90B) for combining the individual received, transmission signals are connected to the passive antenna regions (32, 92) for the reception of transmission signals and-to the base-point electronics for the amplification and filtering (102, 104, 108) of the received transmission signals. Using phase matching

networks, crossover and amplifier circuits have been a well-known practice in antenna field. Therefore, providing Ericsson's antenna system with the electrical networks as taught by Ohe would have been deemed obvious to one skill in the art because it is common.

***Response to the arguments***

9. With respect to claim 1, firstly Applicant has amended the claim to further limitation of canceled claim 5. The amended claim has a new scope since limitations of intermediate claims 2-4 have not been added into the independent claim 1. Thus the amendment necessitates further consideration which is presented as above. Therefore, the action is made Final.

Secondly, the amended claim 1 includes a limitation "conductor portions between intermittent impedance elements of each individual antenna are of a shorter length with increasing distance from a base point" of canceled claim 5. The claimed language of the limitation had been rejected under 112 & 2<sup>nd</sup> in previous office action. Since Applicant had failed to address the issue, similarly 112 rejection has been applied on amended claim 1. In addition, because the Applicant had neither amended nor clarified the claimed language in response the 112 rejection raised by the Examiner in the previous office action, for the purpose of the final office action, as the best understood, the limitation is rejected as stated in paragraph 4 above.

With respect to the rejections of dependent claims, which employing the additional teaching of the cited arts, Applicant has not offer any specific argument thereagainst. Accordingly, no further comments concerning the rejections of the dependent claims are necessary.

***Conclusion***



10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Inquiry***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821.

The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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*July 14, 2008*

*/Trinh Vo Dinh/*

*Primary Examiner, Art Unit 2821*